

2 COMBINED MONITORING REPORT

In accordance with Title V Permit Standard Condition 1.F, BAAQMD Rule 8-34-411 and §60.757(f) in the NSPS, this report is a Combined Semi-Annual Title V Report and Partial 8-34 Annual Report that is required to be submitted by Ox Mountain Landfill. The report contains monitoring data for the operation of the landfill gas collection and control system (GCCS). The operational records have been reviewed and summarized. The timeframe included in this report is October 1, 2014 through March 31, 2015. The following table lists the rules and regulations that are required to be included in this Combined Report.

TABLE 2-1 - COMBINED REPORT REQUIREMENTS

Rule	Requirement	Location in Report
8-34-501.1 §60.757(f)(4)	All collection system downtime, including individual well shutdown times and the reason for the shutdown.	Section 2.1, Appendices C & D
8-34-501.2 §60.757(f)(3)	All emission control system downtime and the reason for the shutdown.	Section 2.2, Appendix D
8-34-501.3, 8-34-507, §60.757(f)(1)	Continuous temperature for all operating flares and any enclosed combustor subject to Section 8-34-507.	Section 2.3, Appendix E
8-34-501.4, 8-34-505, 8-34-510	Testing performed to satisfy any of the requirements of this rule.	Section 2.4 & 2.10 Appendices F & J
8-34-501.6, 8-34-503, 8-34-506, §60.757(f)(5)	For operations subject to Section 8-34-503 and 8-34-506, records of all monitoring dates, leaks in excess of the limits in Section 8-34-301.2 or 8-34-303 that are discovered by the operator, including the location of the leak, leak concentration in parts per million by volume (ppmv), date of discovery, the action taken to repair the leak, date of the repair, date of any required re-monitoring, and the re-monitored concentration in ppmv.	Section 2.6 & 2.7, Appendices G & H
8-34-501.7	Annual waste acceptance rate and current amount of waste in-place.	Section 2.8, Appendix I
8-34-501.8	Records of the nature, location, amount, and date of deposition of non-degradable wastes, for any landfill areas excluded from the collection system requirement as documented in the GCCS Design Plan.	Section 2.9
8-34-501.9, 8-34-505, §60.757(f)(1)	For operations subject to Section 8-34-505, records of all monitoring dates and any excesses of the limits stated in Section 8-34-305 that are discovered by the operator, including well identification number, the measured excess, the action taken to repair the excess, and the date of repair.	Section 2.10, 2.10.1, Appendices J & K
8-34-501.10, 8-34-508, §60.757(f)(1)	Continuous gas flow rate records for any site subject to Section 8-34-508.	Section 2.11, Appendices E and L
8-34-501.11, 8-34-509	For operations subject to Section 8-34-509, records or key emission control system operating parameters.	Section 2.2.2
8-34-501.12	The records required above shall be made available and retained for a period of 5 years.	Section 1.2

Rule	Requirement	Location in Report
§60.757(f)(1)	Value and length of time for exceedance of parameters monitored per §60.756(a), (b), or (d).	Section 2.3
§60.757(f)(2)	Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.	Section 2.2.1
§60.757(f)(3)	Description and duration of all periods when control devices were not operating for more than 1 hour §60.756.	Section 2.2
§60.757(f)(4)	All periods when collection system was not operating for more than 5 days.	Section 2.1
§60.757(f)(5)	Location of each surface emission excess and all re-monitoring dates and concentration.	Section 2.6
§60.757(f)(6)	The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), (c)(4) of §60.755.	Section 2.12, Appendices A & C

2.1 Collection System Operation (BAAQMD 8-34-501.1 & §60.757(f)(4))

Appendix A contains a map of Ox Mountain's GCCS. Section 2.1.1 includes the GCCS downtime for the reporting period. The information contained in Appendix C includes the individual well shutdown times and the reason for the shutdown.

2.1.1 Collection System Downtime

During the period covered in this report, the GCCS was not shut down for more than five (5) days on any one occasion. The downtime for the reporting period of October 1, 2014 through March 31, 2015 was 28.90 hours. The total downtime for 2014 was 24.53 hours out of an allowable 240 hours per year.

Appendix D contains the A-7, A-8, and A-9 Flares and the Ameresco Internal Combustion (IC) engines Downtime Reports which list dates, times, and lengths of shutdowns for the reporting period. Appendix E contains the GCCS Downtime.

2.1.2 Well Start-Up & Disconnection Log

There were three (3) wellfield SSM events that occurred during the reporting period. Three (3) wells were taken offline due to active filling in the area pursuant to BAAQMD Regulation 8-34-116. See Appendix C, Wellfield SSM Log for details of well disconnection and reconnection events.

2.2 Emission Control Device Downtime (BAAQMD 8-34-501.2 & §60.757(f)(3))

The emission control system consists of three (3) flares (A-7, A-8, and A-9), which all began operation in 2004 and the six (6) IC Engines operated by Ameresco. The six (6) IC Engines are under a separate permit and are reported by others. The control system was not bypassed at any time during the reporting period. Raw LFG was not emitted during the reporting period. The SSM logs for the A-7, A-8, and A-9 Flares and the IC Engines are located in Appendix D.

2.2.1 LFG Bypass Operations ((§60.757(f)(2))

Title 40 CFR §60.757(f)(2) is not applicable at Ox Mountain because a bypass line has not been installed. LFG cannot be diverted from the control equipment.

2.2.2 Key Emission Control Operating Parameters (BAAQMD 8-34-501.11 & 8-34-509)

BAAQMD Regulation 8-34-501.11 and 8-34-509 are not applicable to the A-7, A-8, and A-9 Flares because the A-7, A-8, and A-9 Flares are subject to continuous temperature monitoring as required in BAAQMD Regulation 8-34-507 and §60.757(f)(1).

2.3 Temperature Monitoring Results (BAAQMD 8-34-501.3, 8-34-507, & §60.757(f)(1))

The combustion zone temperatures of the flares are monitored with Thermo-Electric Thermocouples. The temperature is displayed with a Yokogawa digital recorder, which is downloaded and archived. There were no temperature deviations during the reporting period. Appendix F contains the Flare Temperature Deviation/ Inoperative Monitor/ Missing Data Reports for October 1, 2014 through March 31, 2015.

2.4 Monthly Cover Integrity Monitoring(BAAQMD 8-34-501.4)

The cover integrity monitoring was performed on the following dates:

- October 24, 2014;
- November 28, 2014;
- December 29, 2014;
- January 26, 2015;
- February 26, 2015; and
- March 31, 2015.

The Monthly Cover Integrity Monitoring Logs are included in Appendix G.

2.5 Less Than Continuous Operation (BAAQMD 8-34-501.5)

Ox Mountain does not operate under BAAQMD Regulation 8-34-404 (Less Than Continuous Operation) and, therefore, is not required to submit monthly LFG flow rates.

2.6 Surface Emissions Monitoring (BAAQMD 8-34-501.6, 8-34-506, §60.757(f)(5) & California Code of Regulations (CCR) §95469(a))

The Fourth Quarter 2014 Instantaneous and Integrated Surface Emission Monitoring (SEM) events was completed by others. Refer to the Fourth Quarter 2014 SEM Report, located in Appendix H, for detailed results. The First Quarter 2015 SEM Report was completed by others, but is not yet available, and will be included in the subsequent Semi-Annual Report.

The Third Quarter 2014 SEM Report is also included in Appendix H as the report was not yet finalized prior to submitting the previous semi-annual report.

2.7 Component Leak Testing (BAAQMD 8-34-501.6 & 8-34-503, CCR §95465(b)(1)(B))

Quarterly component leak testing, pursuant to BAAQMD Regulation 8-34-301.2 and California Air Resources Board (CARB) §95465(b)(1)(B), occurred during the reporting period on the following dates:

- Fourth Quarter 2014 – October 16, 2014 (Flare Stations), and November 12 and 20, 2014 (Wellfield); and
- First Quarter 2015 – January 13, 2015 (Flare Stations), and January, 28 and 29, 2015 (Wellfield).

No exceedances were detected. Refer to the Quarterly LFG Component Leak Monitoring Logs, located in Appendix I, for detailed results.

2.8 Waste Acceptance Records (BAAQMD 8-34-501.7)

The amount of waste accepted during the reporting period of October 1, 2014 through March 31, 2015 was approximately 254,850 tons. The current Waste-In-Place as of September 30, 2014 is approximately 23,399,419 tons.

BAAQMD approved an increase of the current waste limit up to 26.5 million tons.

2.9 Non- Degradable Waste Acceptance Records (BAAQMD 8-34-501.8)

The GCCS Design Plan for Ox Mountain does not indicate non-degradable waste areas that are excluded from the collection system. Therefore, BAAQMD Regulation 8-34-501.8 is not applicable.

2.10 Wellhead Monitoring Data (BAAQMD 8-34-501.4 & 8-34-505)

Wellhead monitoring was performed on a monthly basis pursuant to 8-34-505. The well readings for October 1, 2014 through March 31, 2015 are included in Appendix J. Each well was monitored in accordance with the following requirements:

- 8-34-305.1 - Each wellhead shall operate under a vacuum;
- 8-34-305.2 - The LFG temperature in each wellhead shall be less than 55 degrees Celsius (°C) (131 degrees Fahrenheit [°F]); and
- 8-34-305.4 - The oxygen concentration in each wellhead shall be less than 5 percent by volume.

Wellhead monitoring was performed on the following dates:

- October 13, 22, 27, and 29, 2014;
- November 6, 11, 20, 24, and 26, 2014;
- December 4, 8, 10, 17, 23, and 29, 2014;
- January 6, 13, 26, and 27, 2015;
- February 3, 10, 11, 20, 23, and 24, 2015; and
- March 6, 10, 13, 20, 23, and 27, 2015.

2.10.1 Wellhead Deviations (BAAQMD 8-34-501.9 & §60.757(f)(1))

There were 27 wells with readings that exceeded the limits set forth in BAAQMD Regulation 8-34-305 during the reporting period. Corrective action was initiated within the required 5-day time period and re-monitoring was completed within 15 days of the deviation pursuant to BAAQMD Regulation 8-34-414. See Appendix K, Wellfield Deviation Log, for further details.

2.10.2 Higher Operating Value (HOV) Wells

As of March 31, 2015, the following wells are approved to operate at a HOV for oxygen pursuant to Permit Condition 10164 Part 18b(i):

Oxygen HOV Wells

Pursuant to Permit Condition 10164, Part 18(b)(i), the oxygen concentration limit does not apply to the wells listed below, provided that the oxygen concentration in the LFG at the main header does not exceed fifteen percent oxygen by volume (dry basis): EW-W04, EW-W10, EW-W17, and HC-F06.

2.11 Gas Flow Monitoring Results (BAAQMD 8-34-501.10, 8-34-508, & §60.757(f)(1))

The LFG flow rate is measured with a flow meter. The General Electric data panel displays the LFG flow and the digital Yokogawa data recorder records LFG flow every minute and is downloaded and saved to a compact flash card. The flow meter at each flare meets the requirements of BAAQMD Regulation 8-34-508 by recording data at least every 15 minutes. The flow meter is maintained and calibrated pursuant to manufacturer's recommendations. The flow data for each flare is available for review at Ox Mountain. Appendix L contains a summary of the monthly LFG flow rates for the flares. Appendix F contains the Flare Temperature Deviation/ Inoperative Monitor/ Missing Data Report for October 1, 2014 through March 31, 2015. There were no issues during the reporting period. Table 2-2 below is a summary of the total LFG flow for the reporting period of October 1, 2014 through March 31, 2015.

TABLE 2-2 - TOTAL LFG FLOW FOR OCTOBER 1, 2014 THROUGH MARCH 31, 2015

Emission Control Device	Average Flow (SCFM)	Average CH ₄ (%)*	Total LFG Volume (SCF)	Total LFG Volume Corrected to 50% CH ₄ (scf)	Total CH ₄ Volume (scf)	Total Heat Input (MMBTU)
A-7 (Flare)	0.0	53.5	0.0	0.0	0.0	0.0
A-8 (Flare)	1,238.6	52.3	14,681,908.0	15,016,673.7	7,411,981.1	7,508.3
A-9 (Flare)	1,902.4	51.1	8,958,805.5	9,259,469.2	4,570,220.7	4,629.7

*CH₄ content was determined from their respective inlet locations. CH₄ concentrations determined during the annual source test will be used in lieu of monthly averages when weekly CH₄ concentrations are negligible due to monitoring conducted while devices are offline.

scfm = standard cubic feet per minute

CH₄ = methane

scf = standard cubic feet

MMBTU = million British thermal units

% = percent

2.12 Compliance with §60.757(f)(6)

"The date of installation and the location of each well or collection system expansion added pursuant to (a)(3), (b), (c)(4) of §60.755."

An expansion of the GCCS did not occur during the reporting period.

Permit Condition 10164, Part 17b(i) still allows for the replacement of an unlimited number of vertical wells, installation of up to 26 new vertical wells, installation of up to 18 new horizontal collectors, the decommissioning of up to 38 vertical wells, and the decommissioning of up to 9 horizontal collectors.

As of March 31, 2015, Ox Mountain consists of 166 vertical wells, 9 horizontal collectors, 1 leachate collection riser, and 1 trench collector.

2.13 Compliance with Title V Permit Condition Number 10164, Part 5

The unpaved segment of road extending from the end of the paved haul road to the working face does not exceed the 1,200 foot length limit.

2.14 Compliance with Title V Permit Condition Number 10164, Part 6

No vehicles exceeded the 10 mile per hour speed limit on the unpaved roads.

2.15 Compliance with Title V Permit Condition Number 10164, Part 7

All unpaved roads (excluding limited use access roads) were treated with 10 percent magnesium chloride dust suppressant solution at a rate of at least once per calendar month. During October 2014 through March 2015, dust suppressant was applied after any dry period consisting of 30 consecutive days with less than 0.09 inches of rain per day. In addition, water was applied to all unpaved roads at least 4 times per working day. The watering schedule was reduced during periods of sufficient precipitation to minimize dust emissions.

2.16 Compliance with Title V Permit Condition Number 10164, Part 8

All paved roadways were swept and washed down at least twice per week or as necessary to maintain a clean road surface.

2.17 Compliance with Title V Permit Condition Number 10164, Part 9

On-site vehicle traffic volume did not exceed the number of round trips described in Table 2-3 during any one day:

TABLE 2-3 - ON-SITE VEHICLE TRAFFIC VOLUME

Vehicle Type	Daily Round Trip Limits
Transfer Trucks	178
Packer Trucks	52
Water Trucks	36
Soil Trucks	200
Misc Heavy Duty Equipment	60
Light Duty Vehiclest	250

2.18 Compliance with Title V Permit Condition Number 10164, Part 10

Except for the vehicles listed in Table 2-4, the on-site one way distance traveled by any heavy-duty vehicle (on paved roads only) did not exceed 8,000 feet. This limitation does not apply to the vehicles listed in Table 2-4, which may travel up to a maximum of 11,700 feet (one-way distance) on paved roads:

TABLE 2-4 - VEHICLE TRAFFICE

Vehicle Type	Daily Round Trip Limits
Water Truck	36
Fuel Trucks	2
Employee - Light Duty Equipment	20

2.19 Compliance with Title V Permit Condition Number 10164, Part 13

No contaminated soil containing volatile organic compound (VOC) concentrations greater than 50 parts per million by volume (ppmv) was received during this reporting period. VOC-laden soil (containing less than 50 ppmv of VOCs) was received during this reporting period. The total VOC-laden soil placed did not exceed the 118.75 ton daily limit or the 31,800 ton yearly limit.

2.20 Compliance with Title V Permit Condition Number 16315 for S-12 Stockpile or Green Waste

Appendix O contains monthly and 12-month rolling records of the amount of yard and green waste received for this reporting period. These records are maintained at Ox Mountain and are available upon request.

2.21 Compliance with Title V Permit Condition Number 14098 and 25107 for S-5 Non-Retail Gasoline Dispensing Facility G#8524

Pursuant to Title V Permit Condition Number 14098 and Regulation 2-5, the facility's annual gasoline throughput did not exceed the 940,000 gallon (gal) limit in any consecutive 12-month period. Monthly gasoline throughput totals for the reporting period are included in Appendix P. These records are maintained at Ox Mountain and can be made available upon request.

Pursuant to Title V Permit Condition Number 25107, the Static Pressure Performance Test (Leak Test) for ST-38 was performed on October 31, 2014. The Static Pressure Performance Test results are included in Appendix P.

4 START-UP, SHUTDOWN, MALFIUNCTION (SSM) PLAN

4.1 SSM Log for the GCCS at Ox Mountain

The NESHAP contained in 40 CFR Part 63, AAAA for MSW landfills to control hazardous air pollutants include the regulatory requirements for submittal of a semi-annual report (under 40 CFR §63.10(d)(5) of the general provisions) if an SSM event occurred during the reporting period. The reports required by §63.1980(a) of the NESHAP and §60.757(f) of the NSPS summarize the GCCS exceedances. These two semi-annual reports contain similar information and have been combined as allowed by §63.10(d)(5)(i) of the General Provisions.

NESHAP 40 CFR part 63, AAAA became effective on January 16, 2004. Those SSM events that occurred during the NSPS semi-annual reporting period are reported in this section (October 1, 2015 through March 31, 2015). The following information is included as required:

- The A-7 Flare did not operate from October through March 2015. There were no Startup, Shutdown, or Malfunction (SSM) events. The SSM log for the A-7 flare is in Appendix D, Flare SSM Log.
- During the reporting period, eleven (11) A-8 Flare SSM events occurred. The A-8 Flare was shut down and restarted during the reporting period due to the reasons noted in Appendix D, Flare SSM Log.
- During the reporting period, 57 A-9 Flare SSM events occurred. The A-9 Flare was shut down and restarted during the reporting period due to the reasons noted in Appendix D, Flare SSM Log.
- During the reporting period, three (3) Wellfield SSM events occurred. Details are included in Appendix C, Well SSM Log.
- There were 71 events in total. In all 71 events, automatic systems and operator actions were consistent with the standard operating procedures contained in the SSM Plan. There were no deviations from the SSM plan.
- Exceedances were not identified during the reporting period in any applicable emission limitation in the landfills NESHAP (§63.10(d)(5)(i)).
- Revisions of the SSM Plan to correct deficiencies in the landfill operations or procedures were neither required, nor prepared (§63.6(e)(3)(viii)).